# Orchidaceous Additions to the Philippine Flora (II)

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**ABSTRACT:** Continuing herbarium and literature studies of Philippine orchids have revealed a variety of new and noteworthy data. Two new monospecific genera and their species are proposed, namely *Samarorchis sulitiana* and *Santotomasia wardiana*. One new species in an established genus is also proposed, namely *Micropera edanoi*. One replacement name is proposed for the homonym *Liparis monophylla*, viz. *L. carnicolor*. *Liparis viridicallus* Holttum is newly recorded for the Philippines and seven taxa are proposed as synonyms of earlier entities. Two names are lectotypified, namely *L. grandis* and *L. jarensis*.

KEY WORDS: Philippine Orchids, new genera, species, records, reductions.

#### INTRODUCTION

The present paper is a continuation of studies (Ormerod, 2004) previously conducted on Philippine orchids. Nearly all the observations proposed below are the result of endeavors undertaken at the Harvard University Herbaria (A, AMES, GH). The latter institution incorporates the Oakes Ames Orchid Herbarium which contains the majority of Philippine orchid type specimens and a significant amount of pre-World War II duplicates from PNH. After the destruction of PNH during World War II, a comprehensive post-war collecting campaign was begun by Eduardo Quisumbing and his collaborators. Thus there is also at AMES a number of post-war duplicates and in some cases unicates.

#### TAXONOMIC TREATMENTS

Aerides Lour.

A genus of attractive, horticulturally desirable vandaceous plants with about 6 (5 endemic) species in the Philippines. Most species have racemes of variously pink to purple marked, white to reddish flowers that are often delightfully fragrant.

Aerides leeana Rchb. f., Gard. Chron. 15: 656, 1881. Type: "East Indies" [Philippines], cult. Lee s. n. (Holotype: W).

Saccolabium semiclausum Krzl., Ann. Nat. Hofmus. Wien 30: 63, 1916. syn. nov.

Type: Philippines – *sine loc.*, cult. Bot. Gard. Munchen-Nymphenburg, ex *A. Loher s. n.* (Holotype: lost).

Distribution: Philippines.

Notes: This species was previously well known as *A. jarckiana* Schltr. until Eric Christenson found *A. leeana* to be the earlier name (see Cootes, 2001). I find that the previously unidentifiable (due to the faulty protologue) *Saccolabium semiclausum* should also be reduced to the synonymy of *A. leeana* after analysis of its description.

#### Cleisostoma Blume

Valmayor (1984) lists 7 species from the Philippines with 4 considered to be endemic. However *C. dealbatum* (Lindl.) Garay and *C. pugioniforme* (Klotzsch) Garay are considered synonyms of *C. subulatum* Blume. Also, Valmayor's description and distribution given for the obscure *C. striolatum* (Rchb.f.) Garay applies to a different species, namely *C. uraiense* (Hayata) Garay & Sweet. Thus with the reduction of *C. weberi* (Ames) Garay below it will be noted that there are 5 Philippine species, of which only the unknown (and possibly not Philippine) *C. striolatum* could be treated as an endemic taxon.

*Cleisostoma williamsonii* (Rchb.f.) Garay, Bot. Mus. Leafl Harv. Uni. 23, 4: 176, 1972.

Basionym: *Sarcanthus williamsonii* Rchb.f., Hamb. Gartenz. 21: 353, 1865.

Type: NE India – Assam, cult. W.J. Williamson s.n. (Holotype: W).

Sarcanthus weberi Ames, Orch. 5: 252, 1915. syn. nov. Cleisostoma weberi (Ames) Garay, Bot. Mus. Leafl. Harv. Uni. 23, 4: 175, 1972.

Type: Philippines – Mindanao, Davao District, Gulf of Davao (Paluan), 0 m, 7 September 1911, *C.M. Weber 252* (Holotype: AMES!).

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Distribution: NE India; Bhutan; Myanmar; China (Yunnan to Hong Kong); Vietnam; Thailand; Malaysia; Indonesia (Sumatra, Java); Philippines.

Notes: I have not been able to find any distinguishing characters for *Sarcanthus weberi* and thus reduce it to synonymy. *Cleisostoma williamsonii* seems to be widely distributed in lowland places in the Philippines judging from the 13 collections in AMES from such localities as Cariman Island, Luzon, Mindanao, Palawan and the Tawi-Tawi Islands.

#### Liparis L.C. Rich.

When this genus is construed in the broad sense, there are about 38 species (21 endemic) of *Liparis* in the Philippines. I here note that one obscure species, *L. fulgens* Rolfe (Gard. Chron., 2: 620, 1889), has been overlooked in subsequent enumerations of Philippine orchids. It belongs to the *L. latifolia* Lindley complex and it may remain unidentified unless the type can be located.

*Liparis bicuspidata* J.J.Sm., Icon. Bogor. 2: 45, T. 109-C: 1-2, 1903. Fig. 1A

Type: Borneo – [Kalimantan], *sine loc.*, *A.W. Nieuwenhuis s. n.* (Holotype: BO).

Liparis wenzelii Ames, Orch. 5: 84, 1915. syn. nov.

Type: Philippines – Leyte, 500 m, 27 May 1914, *C.A. Wenzel 0403* (Holotype: AMES!).

Distribution: Brunei; Indonesia (Kalimantan); Malaysia (Sabah); Philippines.

Notes: The type of *L. wenzelii* matches J.J. Smith's drawings of *L. bicuspidata*, a species with a deeply bilobed lip apex that has each lobule notched apically. The lip figured as *L. bicuspidata* in Wood & Cribb (1994) differs from it having slightly divaricate, subacute, entire lobules and may be a separate entity. I have seen material of this latter entity from Indonesian Kalimantan [*Jarvie & Ruskandi 5566* (A)].

Plants mistakenly figured as *L. wenzelii* in Cootes (2001) and in Fessel & Balzar (1999) are in my opinion *L. grossa* Rchb.f. (Syn.: *L. rizalensis* Ames).

*Liparis carnicolor* Ormerod, *nom. nov.* Figs. 1B & C Basionym: *Liparis monophylla* Ames, Orch. 6: 294, 1920 [non Spreng. 1826].

Type: Philippines – Leyte, Jaro, 7 November 1914, *C.A. Wenzel 0673* (Holotype: AMES!).

Distribution: Philippines.

Notes: A new name has been proposed for *L. monophylla* Ames since the specific epithet is already occupied.

*Liparis condylobulbon* Rchb.f., Hamb. Gartenz. 18: 34, 1862.

Type: Java – *sine loc.*, cult. *G.W. Schiller s. n.* (Holotype: W).

Cestichis clemensiae Ames, Philipp. J. Sci., Bot. 4:666, 1909. syn. nov. Liparis clemensiae (Ames) Ames, Orch. 5:79, 1915.

Type: Philippines – Mindanao, Lake Lanao, February 1906, *M.S. Clemens* 129 (Holotype: AMES!).

Distribution: Thailand to Fiji.

Notes: Study of the type of *Cestichis clemensiae* shows it to be a small specimen of *Liparis condylobulbon*, one of the most commonly collected *Liparis* species in the Philippines.

Liparis grandis Ames & C.Schweinf., Orch. 6: 87, 1920. Fig. 1E

Type: Malaysia – Sabah, Mt. Kinabalu, July to August 1916, *G. Haslam s.n.* (Lectotype here designated: AMES 17046!, isolectotype: AMES 17047!, K).

Liparis jarensis Ames, Orch. 6: 293, 1920. syn. nov.

Type: Philippines – Leyte, Jaro, Masaganap, 700 m, 1 December 1914, *C.A. Wenzel 0799* (Lectotype here designated: AMES 15448!, isolectotype: AMES 15449!).

Distribution: Indonesia (Kalimantan); Malaysia (Sabah); Philippines.

Notes: This species is a member of the section *Choriostachys* Schltr., a section characterized by having pseudobasal inflorescences. It is quite likely that *L. grandis* will prove to be conspecific with the earlier Papua New Guinean *L. acaulis* Schltr. when further material of the latter becomes available for comparison. Most Bornean collections of *L. grandis* are more robust than Philippine material but a specimen [*Geesink 9051*(A)] from Kalimantan is intermediate in this respect.

*Liparis viridicallus* Holttum, Gard. Bull. Singap. 14: 4, 1953. Fig. 1D

Type: Peninsular Malaysia – Fraser's Hill, *R. Holttum 39465* (Holotype: K).

Distribution: Malaysia (Peninsula, Sabah) Philippines.

Specimen examined: PHILIPPINES – Luzon, Rizal Prov., September 1909, *A. Loher 14710* (AMES).

Notes: Loher's collection from Rizal Province represents a new record for the Philippine flora. I have also seen in AMES two specimens [Carr SFN.

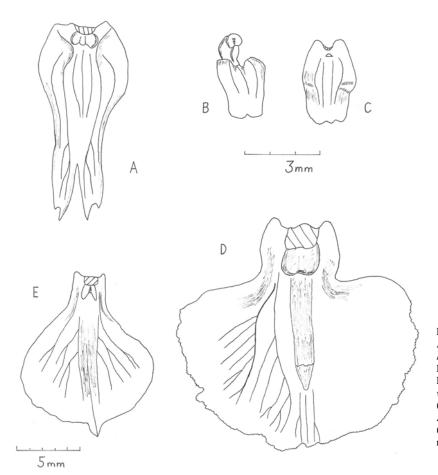


Fig. 1. Liparis bicuspidata J. J. Sm. A: Labellum (From Wenzel 403). Liparis carnicolor Ormerod. B: Labellum and column from front. C: Labellum (from holotype). Liparis viridicallus Holttum. D: Labellum (from Loher 14710). Liparis grandis Ames & C. Schweinf. E: Labellum (from Geesink 9051). A-D and E to respective scale.

26466; Clemens 30599] from Mt. Kinabalu, Sabah. According to Jeff Wood (pers. comm.) L. terrestris Comber from Sumatra and Java is to be treated as a synonym of L. viridicallus

#### *Micropera* Lindl.

Previously 3 species (all endemic) were recognized as occurring in the Philippines. However amongst unidentified material at AMES I found material of a fourth endemic taxon. *Micropera* is a vandaceous genus characterized by its nonresupinate flowers, prominent spur containing various appendages and partially twisted column with a large rostellum.

Micropera edanoi Ormerod, sp. nov Fig. 2 Type: Philippines – Palawan, Puerto Princesa, Bucungan, 0 m, 23 March 1947, G.E. Edano 716 (=PNH 396) (Holotype: AMES!).

Affinis M. fasciculata (Lindl.) Garay sed basi epichilo labello in sectionis uncinato (non triangularis) differt.

Epiphytic herb. Stem elongate, terete, laxly leafy, emitting several roots along most of its length,

23 cm long, 0.3-0.5 cm thick (including leaf sheaths). Roots elongate, terete, 0.15-0.20 cm thick. Leaves ligulate to linear-ligulate, obtuse to slightly inequally obtusely bilobed, coriaceous, 9.1-12.5 cm long, 1.10-1.75 cm wide; exposed part of leaf sheaths 1.1-1.6 cm long, striate, in dry state transversely wrinkled. Inflorescence erect, racemose, 15.0-20.9 cm long; peduncle 8.7-9.5 cm long; sheaths 3, lax, tubular, obliquely truncate, 0.30-0.35 cm long; rachis laxly 14-18-flowered, 5.5-12.2 cm long; floral bracts broadly ovate-triangular, acute, 0.2 cm long. Capsules cylindric, slender, squamulose, green, to 4.3 cm long, 0.3 cm thick. Flowers nonresupinate, fleshy, sepals and petals squamulose externally, color not known. Dorsal sepal oblong, obtuse, 5-veined, 7 mm long, 3 mm wide. Lateral sepals joined by inner margins for 2 mm and also partly fused to the back of the labellum, obliquely elliptic-obovate, obtuse, 5-7-veined, 7 mm long, 3.5 mm wide. Petals ligulate-oblong, subacute, possibly subfalcate, 3-5-veined, 6 mm long, 2 mm wide. Labellum spurred, trilobed, 8 mm long; lateral lobes obliquely obovate, obtuse, inside with a callosity, 4 mm along top margin, 2 mm wide (front edge near midlobe);

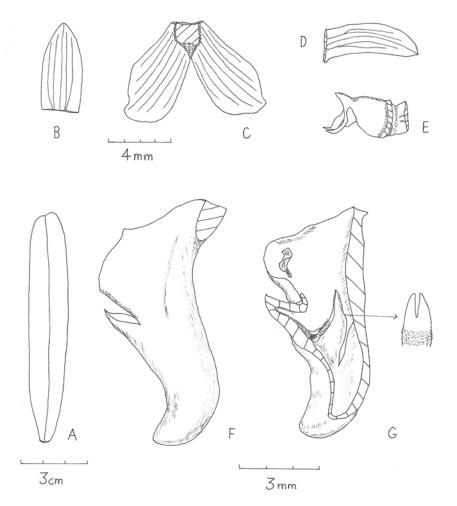


Fig. 2. Micropera edanoi. A: Leaf. B: Dorsal sepal. C: Lateral sepal. D: Petal. E: Column (swollen from fertilization). F: Labellum. G: Labellum crossection (frontal view of frontwall callus arrowed). A, B-E and FG to respective scales. Drawn from holotype.

midlobe triangular, acute, erect, hollow, basally with a recurved horn, 1.8-2.0 mm long; spur oblongoid-conical, obtuse, slightly forward curved, inside with a large bifid, basally pubescent, frontwall callus below the midlobe, divided longitudinally by a septum, lateral inside edges of spur below sidelobes with a rounded, papillose-pubescent ledge. Column ca. 4.5 mm long.

Distribution: Philippines (Palawan).

Specimen examined: PHILIPPINES – Palawan, Puerto Princesa, Bucungan, 0 m, 26 March 1947, *G.E. Edano* 849 (=PNH 447) (AMES).

Notes: The closest ally of this species appears to the East Malesian (New Guinea to New Caledonia) and NE Australian *Micropera fasciculata* (Lindl.) Garay since it is very similar in habit and general appearance of the flowers. However *M. edanoi* differs from *M. fasciculata* in having flowers with a hollow midlobe that has a basally recurved horn on the upper surface. In *M. fasciculata* the midlobe is solid and has an obliquely triangular (in lateral view) medial callus.

#### Samarorchis Ormerod

This small vandaceous orchid is a little like the Javanese *Malleola kawakamii* J.J. Smith in habit but half the size. However *Samarorchis* differs from *Malleola* J.J.Sm. & Schltr. in its pollinarium having cruciform stipes with a broader base and two split pollinia. In *Malleola* the pollinarium has a broadly obovate stipes that is strongly attenuated towards the viscidium and has two unsplit pollinia. *Malleola* flowers also have a labellum with a ligulate to triangular, erect to recurved midlobe whilst in *Samarorchis* the labellum has a porrect, subquadrate midlobe.

Type species: Samarorchis sulitiana Ormerod.

#### Samarorchis sulitiana Ormerod, gen. & sp. nov.

Fig. 3

Type: Philippines – Samar, Sitio Tinane, Loquilocon, Wright [city], 200 m, 29 May 1948, *M.D. Sulit & E. Conose 3049 (=PNH 5504)* (Holotype: AMES!).

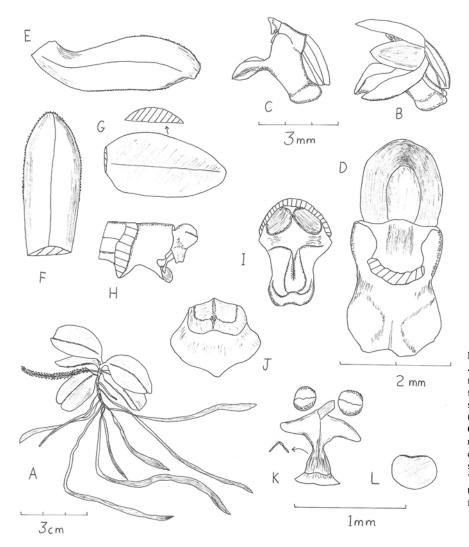


Fig. 3. Samarorchis sulitiana. A: Plant. B: Flower. C: Flower minus tepals. D: Labellum and spur from above. E: Lateral sepal. F: Dorsal sepals. G: Petal (cross-section arrowed). H: Collumn. I: Clinandrium and rostellum from front. J: Anther cap. K: Pollinarium) cross section of stipe arrowed). L: Viscidium. A, BC, D-H and I-L to respective scales. Drawn from holotype.

Caulibus abbreviatis, foliatis; foliis carnosis; inflorescentiis modeste pedunculatis, supra racemosis, densifloris; floribus minutis; sepala subsimilia, marginibus denticulato-papillosis; petala oblique ovatis, obtusis; labellum calcaratum, trilobum; pollinia 2, stipitis cruciformis.

Epiphytic herb. Stem 30 mm long, 1.0-1.5 mm thick, lower 15 mm emitting numerous roots, upper 15 mm 5-leaved, covered by overlapping leaf sheaths. Roots elongate, narrowed and semiterete basally but flattened when on substrate, 0.5-2.5 mm wide. Leaves obliquely elliptic, inequally bilobed, thickly coriaceous, 22-27 mm long, 14.0-14.5 mm wide; exposed part of leaf sheaths ca. 3 mm long. Inflorescence porrect, racemose, 36 mm long; peduncle ca. 6 mm long; sheathing bract one, midway along peduncle, broadly ovate, acute, loosely 2.5 mm long; rachis many-flowered, 30 mm long; floral bracts triangular,

acute, ca. 2 mm long. Pedicellate ovary thickly clavate, 6-ribbed, 1.6-2.0 mm long. Flowers forward facing along rachis, whitish, sepals and petals plano-convex (i.e. inner surface flat, outer surface convex). Dorsal sepal oblong, obtuse, margins denticulate-papillose, 2.5 mm long, 0.95 mm wide. Lateral sepals obliquely oblong-oblanceolate, subunguiculate, margins denticulate-papillose, 2.75 mm long, 0.95 mm wide. Petals obliquely ovate, obtuse, 1.95 mm long, 1 mm wide. Labellum spurred, trilobed; spur obliquely ellipsoid-rectangular and transversely dilated apically in lateral view, in dorsal view broadly obovoid, emarginate, without internal appendages, ca. 1.7 mm long, ca. 1.5 mm wide dorsally; lateral lobes obliquely semicircular-elliptic, obtuse, ca. 0.75 mm tall, ca. 0.95 mm wide; midlobe subquadrate, porrect, obtuse, very fleshy, slightly excavate medially, basally demarcated by a transverse ridge, 1.1 mm long, 1.2 mm wide. Column

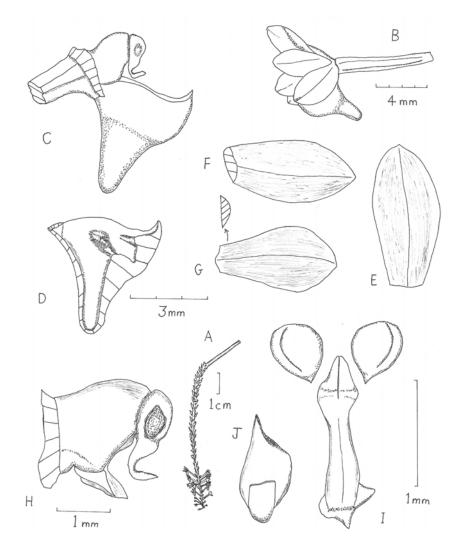


Fig. 4. Santotomasia wardiana.
A: Branch of inflorescence.
B: Flower. C: Flower minus tepals. D: Labellum cross-section.
E: Dorsal sepal. F: Lateral sapal.
G: Petal (cross-section arrow).
H: Collum. I: Pollinarium.
J: Viscidium minus stipes. A, B, C-G, H and I-J to Respective scales. Drawn from holotype.

(minus anther cap) 0.8 mm long, semicylindric, apically each side with a triangular stelid; anther cap with a transversely elliptic-peltate, subacuminate rostrum; rostellum fleshy, subquadrate and emarginate in frontal view; pollinia 2, globose, each with a split; stipes cruciform; viscidium semicircular.

Distribution: Philippines (Samar). Habitat: Flat place in Dipterocarp forest.

Notes: A curious feature of *Samarorchis sulitiana* is that the sepals and petals are plano-convex (i.e. the inner surface is flat and the outer surface rounded). The same character is also found to some extent in *Santotomasia wardiana* but most species of Aeridinae Pfitz. that have convex outer surfaces of the sepals and petals usually have the corresponding inner surface concave.

#### Santotomasia Ormerod

Unfortunately only an inflorescence and two leaves are all that represents this medium sized

vandaceous plant. Its flowers are much like those of *Tuberolabium* Yamamoto *sensu lato* but are produced on a branching inflorescence and the column has strongly oblique sides below the anther, a long rostrate anther cap and two cleft pollinia. In *Tuberolabium* the inflorescence is unbranched, the column has truncate to rounded sides below the anther cap and the two pollinia are entire.

Type species: Santotomasia wardiana Ormerod.

### Santotomasia wardiana Ormerod, gen. & sp. Nov.

Fig. 4

Type: Philippines – Luzon, Benguet Prov., Mt. Santo Tomas, fl. in cult. Manila, July 1913, ex *A.R. Ward s. n.* (Holotype: AMES!).

Caulibus elongatis, foliatis; foliis tenuiter coriaceis, ligulatis ad oblongis; inflorescentiis pauciramosa, multifloris; tepala subsimilia; labellum calcaratum, elobatum; anthera rostrata; pollinia 2, obovoideis, sulcata; stipitis ligulatis.

Stem and roots not seen, but apparently a 'coarse' or stout plant to about 75 cm tall. Leaves ligulate to oblong, inequally obtusely bilobed, thinly coriaceous, 11.2-12.5 cm long, 2.6-3.8 cm wide; leaf sheaths not seen. Inflorescence emerging from axils of fallen leaves, 2-4-branched, 12-20 cm long; peduncle ca. 5 cm long, 0.15-0.25 cm thick; sheathing bracts widely tubular, obliquely truncate, 0.35-0.80 cm long; branches 1.6-8.5 cm long with the rachis 0.9-6.5 cm long, densely many-flowered; floral bracts broadly ovate, acute, retrorse, 1.5-2.5 mm long. Pedicellate ovary subcylindric, 5.5 mm long. Flowers fleshy, pale creamy white, lip with two small dark reddish spots inside. Dorsal obovate-elliptic, obtusish, 5 mm long, 2.7 mm wide. Lateral sepals obliquely elliptic, subacute, 5 mm long, 2.5 mm wide. Petals obovate, obtuse, 4.4 mm long, 2.3 mm wide. Labellum spurred, elobate, 4 mm long, 3.8 mm wide; spur conical-infundibuliform, obtuse; front wall thickened below the acute apex and then thickened again below the subapical callus; sidewalls each with an internal thickening. Column stout, front edge below anther cap oblique, 1.75 mm long, 1.2 mm wide laterally (not including rostellum); anther cap rostrate, 1.9-2.0 mm long; rostellum with a broad V-shaped sinus after removal of pollinarium; pollinia 2, obovoid, cleft; stipe ligulate; viscidium broadly ovate.

Distribution: Philippines.

Notes: It is surprising that this relatively robust vandaceous orchid that reaches at least 75 cm in height has not been recollected since it was first brought from Mt. Santo Tomas in 1913. It must be either a rare or extremely local plant.

#### Thrixspermum Lour.

This genus of fugacious flowered orchids has at least 22 species (17 endemic) in the Philippines. No doubt several more species will be identified and added to the Philippine flora but this will require much fieldwork and cultivation of plants since the flowers of these plants preserve poorly when pressed. Most herbarium specimens of *Thrixspermum* are flowerless and therefore of little use for botanical studies.

Thrixspermum subulatum (Blume) Rchb.f., Xenia Orch. 2: 122, 1867.

Basionym: *Dendrocolla subulata* Blume, Bijdr.: 291, 1825.

Types: Java – Mt. Salak, *Blume s .n.* (Syntype: L); Seribu, *Blume s. n.* (Syntype: L).

Sarcochilus croceus Lindl., Bot. Reg. 32: sub t.19, 1846. syn. nov.

Type: Philippines – Luzon, ex Manila, cult. *G. Loddiges s. n.* (Holotype: lost).

Distribution: Indonesia; Philippines; Taiwan.

Notes: Lindley only had a leaf and a flower bud at hand when he described *Sarcochilus croceus*. Unfortunately the type specimen has long since disappeared but details in the protologue such as the fleshy leaves apically constricted into an acumen and the lunate lip with an obsolete midlobe only fit with *T. subulatum*, thus requiring the above reduction.

#### Trichoglottis Blume

When considered to include *Staurochilus* Ridl., this genus of small to medium sized vandaceous orchids has about 21 species (16 endemic) in the Philippines.

*Trichoglottis atropurpurea* Rchb.f., Linnaea 41: 30, 1876.

Type: Philippines – *sine loc.*, 1873, cult. *H. Low s. n.* (Holotype: W, photo seen).

Trichoglottis bicruris Krzl., Ann. Nat. Hofmus. Wien 30:64, 1916. syn. nov.

Type: Philippines? – cult. Bot. Gard. Munchen-Nymphenburg, ex *A. Loher? s. n.* (Holotype: lost).

Distribution: Philippines.

Notes: This species is an attractive horticultural subject due to its showy reddish-purple flowers. It was well known as *T. brachiata* Ames or *T. philippinensis* Lindl. var. *brachiata* (Ames) L.O. Wms. However with the help of Dr. Leslie Garay (pers. comm.), the name *T. atropurpurea* was shown to be an earlier name for *T. brachiata* (see Cootes 2001).

Trichoglottis bicruris is another of those entities described by Fritz Kraenzlin in one of his characteristic wayward moments. In this I believe that the description of the flowers wholly applies to the species now called *T. atropurpurea*. However the description of the vegetative parts and inflorescence probably applies to another species.

#### **ACKNOWLEDGEMENTS**

I wish to thank herbarium and library staff at HUH (A, AMES, GH) for their help and hospitality during my visits. Dr. L.A. Garay kindly shared information on *Micropera* and *Trichoglottis*.

#### LITERATURE CITED

Cootes, J. 2001. The Orchids of the Philippines. Times Editions, Singapore. 231pp.

- Fessel, H. H. and P. Balzer. 1999. A selection of Native Philippine Orchids. Times Editions, Singapore. 192pp.
- Ormerod, P. 2004. Orchidaceous Additions to the Philippine Flora. Taiwania **49**: 175-182.
- Valmayor, H. 1984. Orchidiana Philippiniana. 2 vols. Eugenio Lopez Foundation, Manila, The Philipines. 1: 1-360, 2: 1-377.

Wood, J. J. and P. Cribb. 1994. A checklist of the Orchids of Borneo. RBG, Kew, UK. 409pp.

# 菲律賓蘭科植物誌新見(II)

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# 摘 要

持續的標本與文獻的研究發現了菲律賓野生蘭的新變種與資料。本文介紹兩個新的單種屬與種,此即 Samarorchis sulitiana 與 Santotomasia wardiana。另介紹一新種,即 Micropera edanoi。此外同義名 Liparis monophylla 則由 L. carnicolor 取而代之。又 Liparis viridicallus Holttum 為菲律賓之新紀錄種。只有七個種名被歸併為同義名,有兩個學名則 重新認定其選定模式標本,即 L. grandis 與 L. jarensis。

關鍵詞:菲律賓蘭花、新屬、種、紀錄、縮簡。

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